

44. arranged so the magnetic flux density coupled to the plasma by each of the interior and peripheral coil portions exceeds the magnetic flux density coupled to the plasma by the intermediate coil portion.

45. (Amended) A coil for use with a low pressure plasma processor for treating a workpiece with an RF plasma wherein the processor includes a low pressure chamber where the workpiece is adapted to be located, and the chamber has an inlet for introducing into the chamber a gas which can be converted into the RF plasma for treating the workpiece, the coil being adapted to be positioned to couple an RF field to the gas for exciting the gas to the plasma state, the coil comprising: interior, intermediate and peripheral portions, the interior, intermediate and peripheral portions having turns connected to each other and arranged so the magnetic flux density coupled to the plasma by each of the interior and peripheral coil portions exceeds the magnetic flux density coupled to the plasma by the intermediate coil portion.

51. (Amended) A coil for use with a low pressure plasma processor for treating a workpiece with an RF plasma wherein the processor includes a low pressure chamber where the workpiece is adapted to be located, and the chamber has an inlet for introducing into the chamber a gas which can be converted into the RF plasma for treating the workpiece, the coil being adapted to be positioned to couple an RF field to the gas for exciting the gas to the plasma state, the coil comprising: interior, intermediate and peripheral portions, the interior portion

*Fig. 1*  
*Fig. 2*  
*Fig. 3*  
including plural radially and circumferentially extending turns,  
the exterior segment having at least one circumferentially  
extending turn, the intermediate portion being configured so it  
(a) does not include a complete turn, (b) is substantially less  
than a complete turn, and (c) includes a lead connected to ends  
of the turns of the interior and exterior portions, the lead  
having at least a portion that is straight.

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*Fig. 4*  
54. (Amended) A low pressure plasma processor for treating  
a workpiece with a plasma comprising a low pressure chamber where  
the workpiece is adapted to be located, the chamber having an  
inlet for introducing into the chamber a gas which can be  
converted into the plasma for treating the workpiece, a coil  
positioned to couple an RF field to the gas for exciting the gas  
to the plasma state, the coil including interior, intermediate  
and peripheral portions, the interior portion including plural  
radially and circumferentially extending turns, the exterior  
segment having at least one circumferentially extending turn, the  
intermediate portion being configured so it (a) does not include  
a complete turn, (b) is substantially less than a complete turn,  
and (c) includes a lead connected to ends of the turns of the  
interior and exterior portions, the lead having at least a  
portion that is straight.

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Please add new claims 57 and 58 as follows:

57. The coil of claim 51 wherein the lead is straight  
throughout its length.

58. The processor of claim 54 wherein the lead is straight  
throughout its length.